

New Luminescence Method of Microchemical Analysis  
(Crystallophosphoric) Communication 2. Detection of Tin

SOV/75-14-4-22/30

There is a separate description of the determination of tin  
in sulfidic substances and in alloys. There are 3 Soviet  
references.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im. A. A. Zhdanova  
(Leningrad State University imeni A. A. Zhdanov)

SUBMITTED: November 14, 1957

Card 4/4

EXCISE NO. 111; 1111111111, N.Y.

Microchemical method for detecting elements, based on the formation of  
insoluble products. Vest. LGU 14 no. 111111-111 '66. (N.Y. 111111)  
(Chemistry, Analytical) (Luminescence)

STOLYAROV, K.F.; GRIGOR'YEV, N.N.

New microluminescence method of titrating small amounts of a substance in solutions. Determination of small amounts of zirconium. Vest.LOU 15 no.10:137-143 '60. (MIRA 13:5)  
(Zirconium--Analysis)

SHCHERBUNOV, Serafim Ivanovich; GRIGOR'YEV, Nikolay Ivanovich;  
SUOLITSKIY, A.Ye., red.; RULOVA, M.S., tekhn.red.

[Methodological manual for practical studies on histology]  
Metodicheskoe posobie k prakticheskim zaniatiyam po gistologii.  
Leningrad, Gos.isd-vo med.lit-ry Medgiz, Leningr.otd-nie, 1961.  
129 p. (MIRA 14:4)

(HISTOLOGY--LABORATORY MANUALS)

GRIGOR YEL, A A

NAME	BOOK EXTRACTS	PAGE
Borshchinsky, G. I., and A. A. Borshchinsky, eds. 1973. <i>Methods for Analyzing Luminous Spectra, Materials of the 5th Conference</i> . Moscow, 1973. 147 p. 1,000 copies printed.		
Sponsoring Agency: All-Union Scientific Center, Institute of Physics, Academy of Sciences of the USSR.		
Editorial Board: B. A. Borshchinsky, Ed.; L. G. Gerasimov, Tech. Ed.; B. S. Sidorov.		
PREFACE: This collection of articles is intended for chemists and physicists interested in the study of luminescence, and for scientists generally concerned with applications of this and related phenomena in research in the life sciences.		
CONTENTS: The collection contains 20 papers read at the Ninth Conference on Luminescence, which took place in Novosibirsk, 1973 (since the conference was held in 1973, the papers were presented primarily in the form of abstracts). These studies are concerned primarily with the development of new luminescence methods for qualitative and quantitative chemical analysis, and with the application of luminescence in medical and biological research. They discuss theoretical and experimental methods for the determination of chemical structure, abundance, forms, and other elements, as well as the application of luminescence in the diagnosis of this element. The papers are divided into three parts: (1) Luminescence analysis; (2) The structural basis of luminescence; (3) The application of luminescence in research. The conference was held in Novosibirsk, 1973. The structural basis of luminescence is discussed in the papers of the conference. The conference was held in Novosibirsk, 1973. The structural basis of luminescence is discussed in the papers of the conference. The conference was held in Novosibirsk, 1973. The structural basis of luminescence is discussed in the papers of the conference.		
Polovnikov, K. I., and A. A. Borshchinsky, eds. 1973. <i>Methods for Analyzing Luminous Spectra, Materials of the 5th Conference</i> . Moscow, 1973. 147 p. 1,000 copies printed.		32
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21105

S/051/61/010/006/001/002  
E032/E314

24.3500 (1137, 1138, 1147)

AUTHORS: Grigor'yev, N.N. and Kulyupin, Yu.A.

TITLE: Some Results of a Study of the Process of Phosphor Deterioration During Electroluminescence

PERIODICAL: Optika i spektroskopiya, 1961, Vol. 10, No. 6, pp. 780 - 786

TEXT: Roberts (Ref. 1) and Thornton (Ref. 2) have suggested that the reduction in the light yield of a phosphor during luminescence is due to changes in the properties of the phosphor itself. Roberts considers that there is a reduction in the number of luminescence centres while Thornton suggests that this number remains constant but the electrical properties of the phosphor undergo a change. The present authors have carried out experiments to elucidate the mechanism responsible for the deterioration of phosphors. The apparatus employed is illustrated schematically in Fig. 1. The two transparent electrodes 1 and 2 can be rotated relative to each other with the gap between them remaining constant at about 50  $\mu$ . Fine crystals of the phosphor are placed in this gap in the

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X

21105

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E032/E314

Some Results of ....

form of a suspension in a liquid dielectric. Rotation of the electrodes gives rise to a rotation of some of the fine crystals so that the luminescence of all parts of these crystals can be eventually observed. Only the central region of the suspension is observed by means of the stop 6. In this way, the effect of new particles entering the field of view is excluded. The Phosphor was ZnS-ZnO-Cu, Al, Cl suspended in silicon oil. In order to accelerate the deterioration process. the phosphor was excited by an electric field of

$5 \times 10^4$  V/cm at a frequency of 15 kc/s. The luminescence was recorded by the photomultiplier 9, whose output was fed into the microammeter 10 (M-95) and the oscillograph 11 (ЭНО-1 (ENO-1)). The photoluminescence was excited by light with  $\lambda_{\max} = 3650 \text{ \AA}$  and was recorded in the green band with the aid of the crossed filters 5. The type ПРК-2 (PRK-2) lamp was used as the source of light 3. It was first established that the deterioration process is largely independent of the surrounding dielectric and is a function

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E032/E314

Some Results of ....

of the properties of the phosphor only. Fig. 2 shows the relative change in the intensity of the electroluminescence (green band) of the phosphor during a periodic rotation of the electrodes (Curve 1 - 400 c.p.s., 240 V; Curve 2 - 15 kc/s, 240 V; Curve 3 - 15 kc/s, 100 V; the time is plotted in hours along the horizontal axis). The phosphor deterioration can clearly be seen in Fig. 2, although a partial recovery of the light yield during the rotation of the electrodes is also apparent. This is said to suggest that the basic process of deterioration occurs not in the entire crystal but in certain parts of it. All the experiments appear to confirm the localised character of the deterioration and there is evidence that the deterioration occurs at the surface. Calculations of the intensity of photoluminescence as a function of time show that it should decrease by 22% over 150 hours (Fig. 3, Curve 1). On the other hand, the measured intensity is found to be constant (Curve 3, Fig. 2). From this, it is concluded that the luminescence centres remain unaltered during the deterioration process since the above

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21105

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EO32/E314

Some Results of ....

calculation was based on the Roberts hypothesis. The phenomenon of electroluminescence is very dependent on the presence of a positive space-charge region which appears under the action of the external field. It is suggested that the spreading of the space-charge region may be responsible for the reduction of the field in the crystal and lead to a reduction in the number of electrons capable of taking part in the luminescence and their effectiveness in this process, i.e. it will give rise to a reduction in the intensity. This may give a qualitative explanation of the variation of the intensity with voltage and frequency, the changes in the form of brightness waves and the changes in the luminescence spectrum which occur in the phosphor during the deterioration process. The reason for this spread of the space-charge region is not very clear although it is probably associated with the appearance of new local capture levels whose formation may be affected by the surrounding

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Some Results of ....

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S/051/61/010/006/001/002  
E032/E314

medium. Acknowledgments to M.V. Fok and V.V. Antonov-Romanovskiy for suggestions and discussions and to R.M. Medvedeva, A.N. Savin for assistance in this work. There are 6 figures, 1 table and 11 references: 5 Soviet and 6 non-Soviet.

SUBMITTED: July 11, 1960

Card 5/6

STOLYAROV, K.P.; GRIGOR'YEV, N.N.; CHEN' GO-LYAN [Ch'ên Kuo-liang]

Microphotometric titration of substances in the ultraviolet with end-point recording. Report No. 1: Design of a microtitrimeter and determination of iron. Zhur. anal. khim. 16 no. 1:4-7 Ja-F '61. (MIRA 14:2)

1. A.A. Zhdanov Leningrad State University.  
(Microchemistry) (Iron—Analysis)  
(Titrimeters)

22183

S/048/61/025/004/032/048  
B117/B212

24.3500

AUTHORS:

Grigor'yev, N. N. and Kulyupin, Yu. A.

TITLE:

Several results obtained from investigations of the  
destruction process of luminophors during electroluminescence

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25,  
no. 4, 1961, 526-527

TEXT: The present paper was read at the 9th Conference on Luminescence  
(crystal phosphors). The authors have investigated the destruction  
process of ZnS.ZnO-Cu,Al,Cl luminophors, according to the operation time.  
The phosphorus mixed with silicon oil was in a capacitor, which construc-  
tion made it possible to change the location of the working particles by  
keeping the excitation and observation conditions constant. This made  
possible a strong destruction of the phosphorus in each crystal volume and  
it was accompanied by a fast drop of brightness. The brightness of the  
photoluminescence did not change, a drop of ~22% has been expected. This  
value had been found by assuming that a strong destruction would take  
place in ~5% of the crystal volume during each semiperiod of the field.


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22183

S/048/61/025/004/032/048  
B117/B212

Several results obtained...

Under the test conditions given the value of 5% has not been too high. This circumstance leads to the conclusion that the luminescence properties of the phosphorus destroyed during electroluminescence will not change. Since the ratio of the light blue to the green band intensity will increase during destruction it can be assumed that the phosphorus but not the surrounding dielectric will be affected. The partial regeneration of the brightness observed when changing the position of the working particles points to a local character of the destruction. Probably, it will take place there, where due to applying an electric field to the crystal the formed positive space charge will be concentrated. The brightness drop of the electroluminescence may be explained as follows: The space charge will expand due to a decrease of the density and this is accompanied by a decrease of the internal field of the crystal. This explanation is also valid for the change of frequency characteristics and the dependence of the brightness from the voltage. Due to the change of the space charge region the characteristic of the brightness has to change also. It has been observed that the ratio of the variable brightness wave components to the constant component and also the ratio of the additional maximum of the brightness wave to the principal maximum will



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22183

S/048/61/025/004/032/048

B117/B212

Several results obtained...

increase. This agrees well with the hypothesis established. And, to a certain degree, the hypothesis also shows no discrepancy for the different behavior of light blue and green electroluminescence bands. This behavior is responsible for the fact that the phosphorus becomes green during its destruction. The cause for the expansion of the space charge could not be cleared. [Abstracter's note: Essentially complete translation].

X

Card 3/3

STOLYAROV, K.P.; GRIGOR'YEV, N.N.; SOLOV'YEVA, L.A.

New microluminescence method for the titration of small amounts of substance in solutions. Report No.2: Determination of small quantities of strong acids in solution. Zhur.anal.khim. 17 no.1: 28-30 Ja-F '62. (MIRA 15:2)

1. A.A.Zhdanov Leningrad State University.  
(Acids) (Luminescence)

STOLYAROV, K.P.; GRIGOR'YEV, N.N.

New microluminescence method of titration of small amounts of a substance in solutions. Report No.3: Determination of aluminum. Zhur.'anal.khim. 17 no.5:565-567 Ag '62. (MIRA 16:3)

1. A.A.Zhdanov Leningrad State University.  
(Aluminum--Analysis) (Luminescence)



GRIGORI'YEV, Nikolay Nikolayevich; SEVERINOV, Sergey Stapanovich;  
IVANOVA, Z.N., red.; ISUPOVA, N.A., tekhn. red.

[The resort of Yevpatoriya; therapy and rest at the resort  
of Yevpatoriya] Kurort Evpatoriia; lechenie i otdykh na  
Evpatoriiskom kurorte. Simferopol'; Krymizdat, 1963. 130 p.  
(MIRA 16:10)  
(YEVPARATORIYA—HEALTH RESORTS, WATERING PLACES, ETC.)

GRIGOR'YEV, N.N., inzh.; DROZHILOV, L.A., inzh.; MERLIN, A.V., inzh.

Sinter cooling in basin coolers. Stal' 23 no.5:385-388  
'63. (MIRA 16:5)

(Sintering)

I. 36258-65 EWT(m)/EPF(n)-2/EWP(t)/EWP(b) Pu-4 IJP(c) JD/VW/JG/GS  
ACCESSION NR: AT5007806 8/0000/64/000/000/0007/0015

AUTHOR: Solov'yeva, L. A.; Stolyarov, K. P.; Grigor'yev, N. N.

TITLE: The problem of determining small amounts of zirconium by luminescence titration

SOURCE: Leningrad, Universitat. Metody kolichestvennogo opredeleniya elementov (Methods for the quantitative determination of elements). Leningrad, Izd-vo Leningr. univ., 1964, 7-15

TOPIC TAGS: zirconium determination, luminescence titration, zirconium ore, pentahydroxyflavone, interfering cation, ore analysis

ABSTRACT: Optimal conditions for the luminescence-titration of small amounts of zirconium in ore, the effect of accompanying cations and the composition of the luminescent complex were studied experimentally. The green-luminescent compound formed with morin (pentahydroxyflavone) was titrated with sodium fluoride and the decreasing luminescence was measured by a galvanometric technique. Spectrophotometric determination of optical densities was used to establish the composition of the complex. Maximum accuracy was reached in 1:1 mixtures of 5.2 N perchloric acid with 1:1 dilute hydrochloric acid, permitting determination of 229 - 6.9  $\mu$ g

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ACCESSION NR: AT5007806

Zr with 0 - 4.3% relative error, whereas lower accuracy was achieved in 4 N H<sub>2</sub>SO<sub>4</sub>. Determination of Zr is feasible at 1:10 Zr/Nb ratios although niobium decreases the luminescence of the complex; aluminum does not hinder the determination of Zr under experimental conditions; copper decreases the accuracy, and ferric ions must be reduced or removed; Mn II does not impede the analysis at 1:10 Zr/Mn ratios. Zirconium in 0.22 and 0.53% concentrations in ore was determined by melting with alkali carbonate, melting the residue with potassium pyrosulfate, dissolving in 10% H<sub>2</sub>SO<sub>4</sub>, vaporization, dilution with water, precipitation with ammonia after adding aluminum chloride as a collector compound if very small amounts of Zr are present, and determination of Zr in the dissolved precipitate by luminescence-titration. The optical density measurements indicated that the composition of the complex corresponds to 1:2 zirconium-morin ratios. "The ore samples were provided by the Tskhl VSEGEI." Orig. art. has: 6 figures and 7 tables.

ASSOCIATION: none

SUBMITTED: 28Sep64

ENCL: 00

SUB CODE: MM,GC

NO REF SOV: 003

OTHER: 000

Card 2/2 JO

L 36257-65 EWT(m)/EWP(t)/EWP(b) IJP(c) JD/JG/C

ACCESSION NR: AT5007807

S/0000/64/000/000/0016/0021

20-  
19  
B+1

AUTHOR: Stolyarov, K. P.; Grigor'yev, N. N.

TITLE: Micro-luminescence method for determining beryllium 21

SOURCE: Leningrad. Universitet. Metody kolichestvennogo opredeleniya elementov  
(Methods for the quantitative determination of elements). Leningrad, Izd-vo  
Leningr. univ., 1964, 16-21

TOPIC TAGS: beryllium determination, luminescence titration, ore analysis,  
pentahydroxyflavone, sulfosalicylic acid, interfering cation, acetylacetone

ABSTRACT: A method was developed for determining small amounts of beryllium in ore by micro-luminescence titration. A beryllium-morin (pentahydroxyflavone) complex, showing yellow-green fluorescence at 365 mμ after ultraviolet irradiation, was titrated with the best results with sodium sulfosalicylate solutions at pH 13 in solutions buffered with glycine. A microtitrimeter, photomultiplier, and galvanometric technique were used, which have been described in previous studies. From 94 to 0.094 μg beryllium were determined with 2.1-10.5% relative error, respectively. The effects of zinc, calcium, barium or aluminum on the results are prevented by complexing with Trilon B, whereas iron, manganese and chromium

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L 36257-65

ACCESSION NR: AT5007807

must be removed before determining beryllium. Good results were obtained by extracting beryllium as the acetylacetonate complex with carbon tetrachloride at pH 9, or by removal of iron from hydrochloric acid solution by extraction with ethyl ether and coprecipitation of beryllium with calcium as the carbonate. The methods were used for determining 0.069 and 0.016% BeO with 0-12.4% relative error in basic pegmatite and in silicate rock. T. N. Ushakova took part in the work." Orig. art. has: 4 figures and 5 tables.

ASSOCIATION: none

SUBMITTED: 28Sep 64

ENCL: 00

SUB CODE: MM, GC

NO REF SOV: 005

OTHER: 000

Card 2/2

J.D.

VREDEN-KOBETSKAYA, T.O.; GEORGOBIANI, A.N.; GOLUBEVA, N.P.;  
GRIGOR'YEV, N.N.; ZHEVANDROV, N.D.; MORGENSHTERN, Z.L.;  
~~PETUKHOVA, M.S.~~; RABINOVICH, N.Ya.; FOK, M.V.;  
KHAN-MAGOMETOVA, Sh.D.; ANTONOV-ROMANOVSKIY, V.V., doktor  
fiz.-mat. nauk, otv. red.

[Luminescence; a bibliographic index for 1947-1961] Liu-  
minestsentsiia; bibliograficheskii ukazatel', 1947-1961.  
Moskva, Nauka. Vol.2. 1964. 378 p. (MIRA 18:4)

1. Akademiya nauk SSSR. Sektor seti spetsial'nykh bibliotek.

L 4537-66 EWT(l)/EWT(m)/T/EWP(t)/EWP(b)/EWA(h) IJP(c) JD/AT  
 UR/0185/65/010/008/0844/0853

ACCESSION NR: AP5020689

AUTHOR: Hryhor'yev, M. M. (Grigor'yev, N. N.)

TITLE: Effect of majority carriers on the mobility of minority carriers in semiconductors

SOURCE: Ukrayins'kyi fizychnyy zhurnal, v. 10, no. 8, 1965, 844-853

TOPIC TAGS: semiconductor carrier, hole mobility, electron mobility, germanium

ABSTRACT: The author calculates the mobility of the minority carriers for an atomic semiconductor with isotropic parabolic energy bands in the region of impurity conductivity, with allowance for the scattering of carriers by ionized impurities. The Boltzmann equation was solved by a method due to I. M. Dykman and P. M. Tomchuk (FTT v. 6, no. 5, 1964 and earlier papers). The carrier-carrier interaction was included by means of the Landau formula. The mobility concentration of minority carriers in n- and p-type germanium was calculated as a function of the electric field at a lattice temperature 77K for concentrations of the majority carrier densities  $10^{16}$  and  $10^{17} \text{ cm}^{-3}$ . The mobility of the minority carriers increases initially with increasing electric field and then begins to decrease. The temperature dependence of the mobility is plotted and discussed. The mobility of the minority carriers is shown to be a good deal less than that calculated by the

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ACCESSION NR: AP5020689

ordinary scheme when the entrainment of the minority carriers by the flux of the majority carriers is not taken into account. The accuracy of the calculation was checked by calculating the mobility of the minority carriers with one, two, and in one case three parameters. "I thank I. M. <sup>44.55</sup>Bykman for constant attention and detailed discussions of the work." Orig. art. has: 19 formulas and 6 figures.

ASSOCIATION: Instytut napivprovidnykiv AN URSR [Institut poluprovodnikov AN UkrSSR] (Semiconductor Institute, AN UkrSSR)

SUBMITTED: 29Jan65

ENCL: 00

SUB CODE: 88

NR REF SOV: 003

OTHER: 003

OC  
Card 2/2.

ACC NR: AP 7001.22

SOURCE CODE: UR/0048/66/030/012/1927/1929

AUTHOR: Grigor'yev, N.N.; Dykman, I.M.; Tomchuk, P.M.

ORG: none

TITLE: Emission of hot electrons from a polar semiconductor having a nonparabolic dispersion law [Report Twelfth All-Union Conference on the Physical Fundamentals of Cathode Electronics held at Leningrad, 22 - 26 Oct. 1965]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 12, 1966, 1927-1929

TOPIC TAGS: thermionic emission, electron emission, electric field, semiconducting material, indium compound, antimonide, mathematic physics

ABSTRACT: The authors discuss thermo-electron emission from a polar semiconductor in which the carriers have been heated by an applied electric field. An approximate expression for the electron energy distribution in such a semiconductor is written but not derived. This expression is valid for an arbitrary dispersion law relating the electron energy  $E$  and momentum  $p$ , and in addition to its dependence on the dispersion law it depends on the lattice temperature, the optical phonon temperature, and the ratio  $F/F_0$  of the electric field strength  $F$  to a certain field strength  $F_0$  that was introduced by H. Frölich and B.V. Paranjape (Proc. Phys. Soc. B69, 21 (1956)) and has a value of some 300 or 400 V/cm for InSb. This distribution function was employed to calculate the thermo-electron emission current for the case when the dis-

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ACC NR: AP 7001722

persion law is  $p^2/2m = E(E + E/G)$ , where  $m$  is the effective mass of the electron at the bottom of the band and  $G$  is the energy width of the forbidden gap. This dispersion law is believed to be valid for InSb. It is found that when the work function is greater than the forbidden gap width, the nonparabolicity of the dispersion law results in an appreciable increase of the Richardson current. The application of an electric field greatly increases the thermo-electron emission current over the Richardson value. This is illustrated by a curve showing the thermo-electron emission current as a function of the applied electric field, the curve being calculated with parameter values appropriate to InSb with a reduced work function of 1.1 eV. An electric field of strength  $F_0$  increases the emission by several orders of magnitude over the no field (Richardson) value, and with fields that might be achieved by pulsing, the emission could be enhanced by as much as 10 orders of magnitude. Orig. art. has: 5 formulas and 1 figure.

SUB CODE: 20 SUBM DATE: None ORIG. REF: 005 OTH REF: 001

Card 2/2

GRIGOR'YANTS, N.N.

Chemical composition and nutritive value of Ashkhabad market milk.  
Gig. 1 san., no.8:49 Ag '54. (MLRA 7:9)

1. Iz Respublikanskoy sanitarno-epidemiologicheskoy santsii  
Ministerstva zdavookhraneniya Turkmeneskoy SSR.  
(ASHKHABAD--MILK--ANALYSIS AND EXAMINATION)  
(MILK--ANALYSIS AND EXAMINATION--ASHKHABAD)

Grigoryants, N. N.

USSR.

✓Chemical composition of fermented camel milk "chal."  
N. N. Grigoryants (Ministry Health, Turkmen. S.S.R.),  
Vyspiy Pishiya 13, No. 4, 41-2(1934).-- Camel milk and  
its fermented product contain on an av. of 10 detms. fat 4.8  
and 4.8, milk sugar 2.78 and 1.22, fat-free dry substance 8.2  
and 6.6, ash 0.86 and 0.76, and EtOH 0 and 1.1%; vitamins  
C 8.0 and 4.8 mg. %; acidity (in Thorner degrees ("T. x  
0.009 = % lactic acid)) 18 and 128; and sp. gr. 1.035 and  
1.010, resp. B. Wierbicki

GRIGOR'YANTS, N.N.; SOKOLOVA, T.A.; YADODINSKAYA, S.G.

Ascorbic acid content of vegetables and grapes in the Turkmen  
S.S.R. Izv. AN Turk. SSR no.5:77-80 '59.

(MIRA 13:3)

1. Ashkhabadskiy institut epidemiologii i gigiyeny Ministerstva  
zdravookhraneniya Turkmeniskoy SSR.

(Ascorbic acid)

(Turkmenistan--Vegetables)

(Turkmenistan--Grapes)

GRIGOR'YANTS, N.N.; SOKOLOVA, T.A.; YAGODINSKAYA, S.G.

Characteristics of the mineral composition of vegetable food products  
in the Turkmen S.S.R. Izv. AN Turk. SSR, Ser. biol. nauk no.1:49-53  
'61. (MIRA 14:8)

1. Turkmenskiy gosudarstvennyy meditsinskiy institut.  
(TURKMENISTAN—PLANTS, ~~EDIBLE~~—CHEMICAL ANALYSIS)  
(MINERALS IN FOOD)

GRIGOR'YANTS, N.N.

Some data on natural radioactivity of food products. Vop.pit. 21  
no.3:89-90 My-Je '62. (MIRA 15:10)

1. Iz Turkmenskogo meditsinskogo instituta, Ashkhabad.  
(ASHKHA BAD--FOOD) (RADIOACTIVITY)



GRIGOR'YANTS, N.N.

Copper content in food products of the Turkmen S.S.R. Izv. AN  
Turk.SSR. Ser.biol.nauk no.2:31-34 '63. (MIRA 16:5)

1. Turkmenskiy meditsinskiy institut.  
(~~TURKMENISTAN—FOOD—COMPOSITION~~)  
(~~COPPER—PHYSIOLOGICAL EFFECT~~)

GRIGOR'YANTS, N.N.

Strontium content of food products in the Turkmen S.S.R.  
according to spectrum analysis. Vop. pit. 22 no.6:63-65  
N-D '63. (MIRA 17:7)

1. Iz kafedry meditsinskoy khimii (ispolnyayushchiy obyazannosti  
zaveduyushchego N.N. Grigor'yants) Turkmenskogo meditsinskogo in-  
stituta, Ashkhabad.

GRANOVSEV, Nikolay Nikolayevich; SEWFRINOV, Sergey Stepanovich;  
BAYEV, Yevg., red.

[Yevpatoriya, the city of sun; a brief essay on the history of the town. A device for guests at Yevpatoriya Health Resort. For whom treatment at Yevpatoriya is recommended] Evpatoriia, gorod solntsa; kratkii rasskaz ob istorii goroda. Sovety otdykhaiushchim na evpatoriiskom kurorte. Komu rekomendovano lechenie v Evpatorii. Sime-ropol', Izd-vo "Krym," 1965. 140 p. (MIRA 18:11)

L 20280-65 EWT(1)/EWG(k)/T/EWA(h) Pz-6/Peb IJP(c)/SSD/AFWL/ASD(a)-5/ESD(gs)/  
ESD(t) AT  
ACCESSION NR: AP5000676 S/0181/64/006/012/3705/3708

AUTHOR: Grigor'yev, N. N.

TITLE: Influence of the majority carriers on the mobility of minority carriers  
in semiconductors

SOURCE: Fizika tverdogo tela, v. 6, no. 12, 1964, 3705-3708

TOPIC TAGS: carrier mobility, phonon scattering, germanium, impurity concentra-  
tion, impurity scattering

ABSTRACT: A theoretical study was made of the minority carriers in a covalent semiconductor with isotropic energy bands in the extrinsic conduction region. It was assumed that these carriers interact with the majority carriers, ionized impurities and acoustical phonons, but not with optical phonons (low-temperature case). Boltzmann's transport equation was solved by the method of I. M. Dykman and P. M. Tomchuk (FTT v. 2, 2228, 1960) and the notation used was identical with that in another paper of Dykman and Tomchuk (FTT v. 6, 1388, 1964). The calculation was carried out specifically for n- and p-type Ge with the majority carrier density of  $10^{16}$  and  $10^{17} \text{ cm}^{-3}$  (this density was assumed to be equal to the

Card 1/2

L 20280-65

ACCESSION NR: AP5000676

ionized impurity concentration) at 77K (lattice temperature). It was found that in weak electric fields (E) the minority carrier mobility  $\mu_{\text{minor}}$  was low (due to the drag by the majority carriers). In such fields  $\mu_{\text{minor}}$  rose with increasing fields because the minority carriers were scattered mainly by the majority carriers and ionized impurities, and for these scattering mechanisms  $\mu_{\text{minor}}$  rose with the carrier temperature (and therefore with the field). In strong fields  $\mu_{\text{minor}}$  decreased with increasing fields because the minority carriers were scattered mainly by phonons, and for this type of scattering  $\mu_{\text{minor}}$  decreased with increase of the carrier temperature, which was a linear function of the field. Orig. art. has: 2 figures and 1 formula.

ASSOCIATION: Institut poluprovodnikov AN UkrSSR (Institute of Semiconductors AN UkrSSR)

SUBMITTED: 09May64

ENCL: 00

SUB CODE: SS

NR REF SOV: 003

OTHER: 000

Card 2/2

AUTHOR: Grigor'yev, K.P. SOV-132-58-8-12/16  
TITLE: New Model of a Mine Compass (Novaya model' gornogo kompasa)  
PERIODICAL: Razvedka i okhrana nedr, 1958, Nr 9, pp 55-56 (USSR)  
ABSTRACT: New model of a compass for use in mines is described. The description is taken from the German periodical "Zeitschrift fuer angewandte Geologie" for 1958. There are 3 photos.  
ASSOCIATION: (V G F)  
1. Compasses--Design 2. Compasses--Applications

Card 1/1

AUTHOR: Grigor'ev, N.P. 007/132-59-1-15/15

TITLE: The Isotope Analysis as a Possible Means of Prospecting  
(Izotopnyy analiz kak vozmozhnoye sredstvo poiskov)

PERIODICAL: Razvedka i okhrana nedr, 1959, Nr 1, p 56 (USSR)

ABSTRACT: The author reports on the works of American scientists - Engel, Epstein and Clayton - on new methods of prospecting. Notes on their work were published in the "Chemical Engineering and Mining Review, 1957, Vol 30, Nr 2, and other foreign periodicals.

ASSOCIATION: VGF

Card 1/1

TKACHEVA, R.E.; OKORODNEVA, V.I.; DUBOVSKAYA, M.V.; MARKOVA, Ye.I.;  
GRIGOR'YEV, N.P.; POPOVA, A.I.; ROZIN, M.S.; OFALEV, A.F.  
Prinimali uchastiye: ANTONOVA, L.N.; MALAYEV, A.A.;  
KIRILLOVA, L.D.; SOKOLOVSKAYA, Ye.Ya., red.izd-va; BYKHOVER, N.A.,  
red.; GUROVA, O.A., tekhn. red.

[Concise handbook on the mineral resources of capitalist  
countries; Asia] Kratkii spravochnik po mineral'nym resursam  
kapitalisticheskikh stran; Aziia. Pod red. N.A.Bykhovera,  
M.V.Dubovskoi i A.F.Ovaleva. Moskva, Gos.nauchno-tekhn.izd-vo  
lit-ry po geol. i okhrane neдр, 1961. 124 p. (MIRA 15:2)  
(Asia—Mines and mineral resources)



TKACHEVA, R.E.; OGORODNEVA, V.I.; DUBOVSKAYA, M.V.; MARKOVA, Ye.I.; GRIGOR'YEV, N.F.;  
POPOVA, A.I.; ROZIN, M.S.; OPALEV, A.F.; Krinimali uchastiye:  
ANTONOVA, L.N.; MALAYEV, A.A.; BYKHOVER, N.A., red.; MAKEYEV,  
V.I., red. izd-va; GUROVA, O.A., tekhn. red.

[Concise handbook on mineral resources in capitalist countries;  
America] Kratkii spravochnik po mineral'nym resursam kapitalisti-  
cheskikh stran; Amerika. Pod red. N.A.Bykhovera, M.V.Dubovskoi i  
A.F.Opaleva. Moskva, Gosgeoltekhizdat, 1961. 154 p.

(MIRA 15:6)

1. Russia (1923- U.S.S.R.) Vsesoyuznyy geologicheskii fond.  
(America--Mines and mineral resources)

GRIGOR'YEV, N.P.

Production and reserves of helium in the U.S.A. Razved. i okh. nedr  
26 no.6:58-59 Je '62. (MIRA 15:7)

1. Vsesoyuznyy geologicheskii fond.  
(United States--Helium)

TKACHEVA, R.E.; OGORODNEVA, V.I.; DUBOVSKAYA, M.V.; MARKOVA, Ye.I.;  
GRIGOR'YEV, N.P.; POPOVA, A.I.; ROZIN, M.S.; OPALEV, A.I.;  
KIRILLOVA, L.D.[translator]; BYKHOVER, N.A., red.;  
SOKOLOVSKAYA, Ye.Ya., red. izd-va; BYKOVA, V.B., tekhn. red.

[Brief manual on the mineral resources of capitalist countries;  
Europe]Kratkii spravochnik po mineral'nykh resursam kapitalisti-  
cheskikh stran; Evropa. Pod red. N.A.Bykhovera, M.V.Dubovskoi  
i A.F.Opaleva. Moskva, Gosgeoltekhizdat, 1962. 118 p.

(MIRA 15:8)

1. Russia (1923- U.S.S.R.)Vsesoyuznyy geologicheskii fond.  
(Europe, Western—Mines and mineral resources—Handbooks, manuals,  
etc.)

TKACHEVA, R.E.; OGORODNEVA, V.I.; DUBOVSKAYA, M.V.; MARKOVA, Ye.I.;  
GRIGOR'YEV, N.P.; POPOVA, A.I.; ROZIN, M.S.; OPALEV, A.F.;  
Prinimali uchastiye: ANTONOVA, L.N.; MALAYEV, A.A.;  
BYKHOVER, N.A., red.; NEKHODTSEV, N.A., red.; PANOVA, A.I.,  
red.izd-va; IVANOVA, A.G., tekhn. red.

[Brief manual on the mineral resources of capitalist countries;  
Africa, Australia and Oceania]Kratkii spravochnik po mineral'-  
nym resursam kapitalisticheskikh stran; Afrika, Avstraliia i  
Okraniiia. Moskva, Gosgeoltekhizdat, 1962. 197 p.

(MIRA 16:3)

1. Russia (1923- U.S.S.R.)Vsesoyuznyy geologicheskiiy fond.  
(Africa--Mines and mineral resources)  
(Australia--Mines and mineral resources)  
(Oceania--Mines and mineral resources)

GRIGOR'YEVA, N. R.

GRIGOR'YEVA, N. R. -- "Material on the Pathology of the Cardiovascular System in Diphtheria among Children." Khar'kov Medical Inst. Khar'kov, 1955. (Dissertation for the Degree of Candidate in Medical Sciences).

So.: Knizhnaya Letopis', No. 2, 1956.

CA  
GRIGOR'YEV, N. V.

24

Influence of certain substances on the separation velocity of nitroglycerin from the spent acid. I. K. Medank and N. V. Grigor'ev. *Trans. Institute. Chem. Ind. Kanan No. 1, 187-91(1954)*.—Preliminary results showed that the corrosion (impurities of  $Fe(NO_3)_3$  and  $Pb(NO_3)_2$ ) of not less than 0.5% reduce the speed of separation of nitroglycerin from the spent acid about 2 times, the effect of retardation increasing with increased concn. of the impurities. With a higher concn. of  $HNO_3$  in the mist, the separation is accelerated, the optimum results were obtained with a spent acid composed of 17%  $HNO_3$ , 70%  $H_2SO_4$ , and 13%  $H_2O$ . Urea greatly assists in the separation of nitroglycerin (Can. pat. 37,016 to 37,074(1925)), and at a concn. of 0.5% counteracts the harmful effect of the salts of Fe and Pb.  
Chan. Moscow

ATB-114 METALLURGICAL LITERATURE CLASSIFICATION

15 (2)

AUTHORS:

Sidelev, N. S., Grigor'yev, N. V.

SOV/131-59-9-4/12

TITLE:

Mechanized Discharge and Conveyance of Fire-clay

PERIODICAL:

Ogneupory, 1959, Nr 9, pp 401-402 (USSR)

ABSTRACT:

In the fire-clay section of the Semiluki Works of Refractories formerly 12 workmen were occupied with the transportation of fire-clay by means of tipping trucks. In 1958 a team of efficiency experts had together with the design office of the work elaborated a project for the mechanization of the discharge and the conveyance of the fire-clay and used for this purpose a conveyor consisting of plates (Fig 1). The fire-clay is transported from the bunkers of the shaft furnaces to the metal plate conveyors, and then on to a collecting rubber conveyor belt (Fig 2). By means of a distributing conveyor belt the fire-clay is then transported to the respective bunkers. Among the 16 shaft furnaces 10 are mechanized at the time being, whereas the remaining fire-clay is provisionally discharged and removed by hand. Starting and stopping of the conveyor belts is done by remote-control. By the mechanization of the discharge and the conveying of the fire-clay more than 200000 Roubles could be saved, and heavy manual labour was eliminated. There are 2 figures.

Card 1/2

Mechanized Discharge and Conveyance of Fire-clay

SOV/131-59-9-4/12

ASSOCIATION: Semilukskiy ognepornyy zavod (Semiluk Works of Refractories)

Card 2/2



GRIGOR'YEV, N. V.

PHASE I TREASURE ISLAND BIBLIOGRAPHICAL REPORT

AID 544 - I

BOOK

Call No.: AF620011

Author: GRIGOR'YEV, N. V.

[See Orig. Agency & Purpose]

Full Title: COMPUTATION OF CRITICAL R.P.M. OF MULTI-SUPPORTED ROTORS

Transliterated Title: Raschet kriticheskikh chisel oborotov  
mnogopornykh rotorov

PUBLISHING DATA

Originating Agency: Academy of Sciences, USSR. Institute of Machine  
Design. Poperechnyye kolebaniya i kriticheskiye skorosti (Transverse  
Vibrations and Critical Speeds). First Collection

Publishing House: Academy of Sciences, USSR

Date: 1951 No. pp.: 29 (154-182) No. of copies: 3,000

Editorial Staff

Responsible Editor: Serensen, S. V., Active Member, Academy of  
Sciences, Ukrainian S.S.R.

PURPOSE: This work is one of the seven (AID 540 - 546) which were  
discussed in a seminar on vibrations in the Institute of Machine  
Design, and is reprinted for its practical interest.

TEXT DATA

Coverage: In the introduction the author refers to the classical  
method, sometimes called "natural method", of determining the  
critical RPM of a revolving shaft carrying n disks, discussed by  
A. N. Krylov (see his Collected Works [vol. X, 1948]) and further

1/2

Raschet kriticheskikh chisel oborotov mnogoopornykh rotorov AID 544 - I

developed by E. B. Luntz and V. A. Sudinin. He introduces a method of successive approximations, which allows the determination of critical RPM with adequate engineering accuracy even after the second approximation. He then gives: the fundamentals of his method; the determination of critical RPM, when the revolving shaft is made fast at the ends; special cases of fastening the ends with corresponding equations of frequencies; gyroscopic moment of a cantilever shaft; rotors in gas turbines; revolving shaft with a disk in the middle spans; and multi-supported shaft with elastic supports in the middle parts. In conclusion the author says that in his method with the increase of a single support the computation is increased only by two simple calculations. The method is illustrated by two practical examples. The paper includes a number of diagrams and a table.

No. of References: Total 7 (1935-1948), all Russian  
Facilities: None

2/2

*Grigor'yev, N. V.*

124-1957-10-11258

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 10, p 12, (USSR)

AUTHOR: Grigor'yev, N. V.

TITLE: Dynamic Dampers for Critical Conditions of Turbine Rotors  
(Dinamicheskiye dempfery kriticheskikh sostoyaniy  
vrashchayushchikhsya rotorov turbomashin)

PERIODICAL: V sb. : Kolebaniya v turbomashinakh. Moscow, AN SSSR,  
1956, pp 57-68

ABSTRACT: It is shown that the introduction of (linearly or non-linearly) elastic elements into rotor bearings appears in many instances to be a useful measure toward the prevention of resonance conditions. Calculation methods are evolved for the elasticity of the bearings in the computation of the critical operating speed; a simple graphic method is offered for the calculation of the vibrational amplitudes of a system with a non-linearly elastic element during an otherwise stationary operating regime of the rotor; a condition is set forth which the introduction of a non-linearly elastic element must satisfy if it is to limit the development of a resonance condition.

Card 1/1

G. I. Nikolenko

PHASE I BOOK EXPLOITATION SOV/5794

Grigor' yev, Nikita Vasil' yevich

Nelineynnye kolebaniya elementov mashin i sooruzheniy (Nonlinear Vibrations of Machine Parts and Structures) Moscow, Mashgiz, 1961. 254 p. Errata slip inserted. 7000 copies printed

Reviewer: V. K. Prokopov, Candidate of Technical Sciences; Ed.: A. N. Dokuchayev, Candidate of Technical Sciences; Ed. of Publishing House: N. Z. Simonovskiy; Tech. Ed.: M. M. Peterson; Managing Ed. for Literature on the Design and Operation of Machines: Leningrad Department, Mashgiz: F. I. Fetisov, Engineer.

PURPOSE: This book is intended for engineering and technical workers in machine-construction and construction industries. It may also be used by students in technical institutions of higher education.

Card 1/2

Nonlinear Vibrations of Machine Parts (Cont. )

SOV/5794

**COVERAGE:** The book deals with nonlinear vibrations of beams, rotors, blades, and composite systems of the rotor-casing type. Critical regimes of shafts with nonlinear supports are discussed. The connection between technical and vibrational states of turbomachines is established, and methods of counteracting critical regimes and torsional vibrations are worked out. These methods are based on special features of nonlinear vibrations of elastic systems. No personalities are mentioned. There are 50 references: 46 Soviet, 2 English, and 2 German.

**TABLE OF CONTENTS:**

Introduction	3
Ch. I. Vibration of Beams Which Have Nonlinear Boundary Conditions	7
1. Free vibrations of beams	7

Card 2/9

UDODOV, Pavel Afanas'yevich, prof.; MATUSEVICH, Vladimir  
Mikhaylovich; GRIGOR'YEV, Nikolay Vladimirovich

[Hydrogeochemical prospecting under conditions of  
partly covered geological structures in the Tom'-Yaya  
interfluve] Gidrogeokhimicheskie poiski v usloviakh  
poluzakrytykh geologicheskikh struktur Tom'-Ilskogo  
mezhdurech'is. Tomsk, Izd-vo Tomskogo univ., 1965. 200 p.  
(MIRA 18:7)

GRIGOR'YEV, N. Ya. Cand Agr Sci -- (diss) "Comparative study of methods and depths of the basic cultivation of southern chernozem soils of ~~the~~ Stalingradskaya Oblast.)" Mos, 1957. 20 pp (Mos Order of Lenin Agr Acad im K. A. Timiryazov), 110 copies (KL, 5-58, 102)

GRIGOR'YAN, N.Ya., aspirant.

Comparative effectiveness of various methods of fall tillage and  
fallowing in Stalingrad Province. Dokl. TSNChA no.28:129-135 '57.  
(Stalingrad Province--Tillage) (Fallowing) (NINA 11:4)



GRIGOR'YEV, N.Ya., kand. sel'skokh. nauk

Effectiveness of various methods of fall tillage in the southern  
Chernozem soils. Izv. TSKHA no.1:12-19 '63. (MIRA 16:7)

(Chernozem soils) (Tillage)

GRIGOR'YEV, O.

USSR/Electronics - Television  
Regulators, Voltage

Aug 52

"A Regulator for a Television Receiver,"  
O. Grigor'yev

"Radio" No 8, p 58

Describes the construction of a 320-w, 110-v  
ferroresonance voltage regulator for supply-  
ing the T-2 television receiver.

226T34

GRIGOR'YEV, O.

Volt-ohmmeter feeler. Radio no.8:39 Ag '54. (MIRA 7:8)  
(Electric meters)

GRIGOR'YEV, O.

107-5-44/54

AUTHOR: Grigor'yev, O.

TITLE: Tone Control Unit. Experience Exchange  
(Regulyator tona. Obmen opytom)

PERIODICAL: Radio, 1956, Nr5, p. 56 (USSR)

ABSTRACT: Three tone-control circuits are examined: (1) Change of depth of the negative feedback circuit; (2) Passive fourpole circuit; (3) Potentiometer-type deep negative-feedback circuit. Advantages are seen in the latter circuit as it permits of a wide range of control without distortion and insures steep slopes of the frequency curve.

There are 2 figs in the article.

AVAILABLE: Library of Congress.

Card 1/1

GRIGOR'YEV, O. [Hryhor'iev, O.]

Unique earthmoving machinery. Nash. 1 zhyttia 21 no. 15 2"  
D '61. (UFA 15 2)  
(Ukraine--Earthmoving machinery)

GRIGOR'YEV, O.D. (Novosibirsk)

Integration of equilibrium equations for a body under plane stress  
according to Mises's theory. PMTF no.6:118-119 N-D '62.  
(MIRA 16:6)

(Strains and stresses)

GRIGOR'YEV, O.D. (Moskva)

Certain classes of laminar flow of a rigid-plastic solid.  
PMTF no.6:111-117 N-D '61. (MIRA 14:12)  
(Laminar flow)  
(Plasticity)

GRIGOR'YEV, O.D. (Moskva)

Theory of plane deformation of a rigid-plastic body. Prikl.  
mat. i mekh. 25 no.5:906-911 S-O '61. (MIRA 11:10)  
(Plasticity)



GRIGOR'YEV, O. D.

Dissertation defended for the degree of Candidate of Technical Sciences  
at the Joint Scientific Council on Physicomathematical and Technical Sciences;  
Siberian Branch 1962

"Several Questions of the Theory and Problem of Planar Deformation of  
Plastic Media."

Vestnik Akad. Nauk, No. 4, 1963, pp 119-145

GRIGOR'YEV, O.D. (Novosibirsk)

Condition of the positivity of energy dissipation in the laminar  
flow of a rigid-plastic body. PMTF no.1:164 Ja-# '62.  
(MIRA 15:4)  
(Plasticity) (Laminar flow) (Deformations (Mechanics))

S/207/63/000/001/015/028  
E191/E435

AUTHOR: Grigor'yev, O.D. (Novosibirsk)

TITLE: Plane flow of an elasto-plastic medium in a well lubricated long channel

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no.1, 1963, 115-117

TEXT: The flow in a convergent, long, ideally smooth channel is considered. At the channel exit both the velocities and the stresses are parallel in the channel axis, so that with a small exit aperture the boundary conditions can be approximately satisfied. Using results of his previous work, the author formulates the equations of plane flow of an elasto-plastic substance in the case of the streamlines coinciding with the trajectories of the large principal stress. It is shown that a certain coordinate grid satisfies the system of equations. The mathematical derivation leads to a probability integral in the complex plane, which is well tabulated. The evaluation of the flow parameters and the channel profile are reduced to the computation of this integral. The result of the extrusion Card 1/2.

Plane flow of an elasto- ...

S/207/63/000/001/015/028  
E191/E435

(drawing) forces along any trajectory orthogonal to the streamlines  
is given in a formula. There are 1 figure and 1 table.

SUBMITTED: June 5, 1962

Card 2/2

GRIGOR'YEV, O.D. (Novosibirsk)

Theory of straight-line discontinuity of stresses for a real  
laminar flow of a rigid-plastic body. PMTF no.5:158-159 S-0  
'63. (MIRA 16:11)

L 1646-66 EWT(d)/EWT(m)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(l)/EWA(c) JD/HW

ACCESSION NR: AP5021587

UR/0286/65/000/013/0058/0058

AUTHOR: Grigor'ev, O. G. 4455

TITLE: Device for liquid stamping, Class 31, No. 172455

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 13, 1965, 58

TOPIC TAGS: liquid metal, metal stamping, metalworking machine

ABSTRACT: This Author Certificate presents a device for liquid stamping which includes a crucible with liquid metal, a spring-loaded shaft-doser passing through the liquid metal, and a mold for the isolated volume of metal. To fabricate products of the glaze-signal fusible injection type, the shaft-doser is kinematically coupled to the stamping head mounted on a common base and to a mechanism for cutting off the wire (see Fig. 1 on the Enclosure). The doser is hollow and is provided with a punch telescopically mounted in it, which has an axial hole for feeding the wire. With the motion of the shaft-doser the punch moves in the axial direction into the mold for the isolated volume of metal, mounted in the crucible body. The stamping head includes spring-loaded rods telescopically mounted in the case. The central rod is the matrix bottom and ejector. The next rod surrounding the central rod forms the matrix wall with the approach of the

Card 1/3

L 1646-66

ACCESSION NR: AP5021587

stamping head toward the crucible wall where the mold for the isolated metal is mounted. Orig. art. has: 1 diagram. 3

ASSOCIATION: Kalininskoye konstruktorsko-tekhnologicheskoye byuro Moskovskogo sovnarkhoza (Kalinin Structural Engineering Bureau of the Moscow Sovnarkhoz)

SUBMITTED: 04Nov63

ENCL: 01

SUB CODE: <sup>44.55</sup> IE, MM

NO REF. SOV: 000

OTHER: 000

Card 2/3

L 1646-66

ACCESSION NR: AP5021587

ENCLOSURE: 01

0

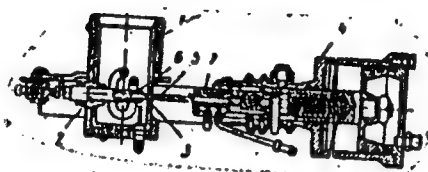


Fig. 1.

1- crucible; 2- shaft-doser; 3- mold for isolated volume of metal; 4- stamping head; 5- mechanism for cutting off wire; 6- punch; 7- central rod.

Card 3/3

DP



FIGURE:

Brigor'ev, G. I., Yuznetsov, B. S., Shimanovskaya, V. I.,  
Matlanov, I. A.

SSV/48-22-7-12/6

FIGURE:

Determination of the ratio  $L/K$  in  $Dy^{159}$  and  $Er^{165}$  and an  
 estimation of the Transmutation Energies of  $Dy^{159} \rightarrow Tb^{159}$   
 and  $Er^{165} \rightarrow Ho^{165}$  (Opredeleniye otnosheniya  $L/K$  dlya  
 $Dy^{159}$  i  $Er^{165}$  i otsenka energii perekhodov  $Dy^{159} \rightarrow Tb^{159}$   
 i  $Er^{165} \rightarrow Ho^{165}$ )

FIGURE:

Izvestiya Akademii nauk SSSR, Seriya fizicheskaya, 1959,  
 Vol. 22, Nr 7, pp. 850-860 (USSR)

ABSTRACT:

The decay energy  $E_0$  of radioactive isotopes, which are sub-  
 jected to an electron capture can be determined by 5 different  
 methods. They are described. From the evidence given it is  
 concluded, that the 5th method, that utilizing the ratio  $L/K$   
 is very convenient in the determination of small transmutation  
 energies ( $< 200$  keV) in isotopes with a relatively simple  
 decay scheme, which do not exhibit a considerable converting  
 cascade  $\gamma$ -radiation. The application of this method is limit-  
 ed by the imperfections still inherent in the modern theory

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SOV/43-22-7-11/26

Determination of the Ratio  $L/K$  in  $Dy^{159}$  and  $Er^{165}$  and an Estimation of the Transmutation Energies of  $Dy^{159} \rightarrow Tb^{159}$  and  $Er^{165} \rightarrow Ho^{165}$

of K-capture and by the incomplete knowledge of the qualitative and quantitative rules governing the processes of the rearrangement of the electron shell of the atom.  $L/K$  was determined for two isotopes of rare earths,  $Dy^{159}$  and  $Er^{165}$ , both having a neutron deficit. Proceeding from the results the transmutation energies of the processes  $Dy^{159} \rightarrow Tb^{159}$  and  $Er^{165} \rightarrow Ho^{165}$  were estimated. A  $\gamma$ -spectrometer combined with a proportional counter was used for measuring the energies and the intensities of an X-ray K- and L-radiation. The proportional counter (Ref 20) permitted to measure the  $\gamma$ - and X-ray radiation of small energies, which is quite impossible with other methods. The proportional counter with a cylindrical aluminum cathode and its circuit diagram is described. The recording power of the counter for  $\gamma$ - and X-ray-radiation of varying energy is computed according to the known absorption coefficients for this radiation in argon and beryllium (Ref 21), taking into account the geometry of the experimental arrangement. The electronic circuit diagram

Car! 2/4

NOV/43-22-7-11/26

Determination of the Ratio L/K in  $Dy^{159}$  and  $Er^{165}$  and an Estimation of the Transmutation Energies of  $Dy^{159} \rightarrow Tb^{159}$  and  $Er^{165} \rightarrow Ho^{165}$

and the calibration of the device is described. The  $Dy^{159}$  source was obtained from a tantalum target, which was irradiated in the synchrocyclotron of the "United Institute of Nuclear Research" with 660 MeV protons. The ratio L/K was computed according to formula (5). It is shown that the transition  $Dy^{159} \rightarrow Tb^{159}$  must be classified as being superforbidden. Marshak's formula was used, giving an energy value of  $79^{+10}_{-5}$  keV for this transition. The lowest level of  $Tb^{159}$  at 57 keV is apparently not excited in the decay of  $Dy^{159}$ . An estimation of the quantity ft on the basis of the decay energy of 79 keV and a half-life of 136 days furnishes a value for lg ft of about 6.2. According to the classification of King (Ref 32) this value agrees with the assumption, that this transmutation is a superforbidden one. The  $Er^{165}$ -sources were also obtained from tantalum irradiated with fast protons ( $E_0 = 660$  MeV). The X-ray radiation

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SOV/43-22-7-12/26

Determination of the Ratio L/K in  $Dy^{159}$  and  $Er^{165}$  and an Estimation of the Transmutation Energies of  $Dy^{159} \longrightarrow Tb^{159}$  and  $Er^{165} \longrightarrow Ho^{165}$

of a series of tantalum targets irradiated for different periods was measured. The ratio  $I_L/I_K$  (for the intensities of these radiations) was equal to 0.40. From this value for L/K a result of  $1.2 \pm 0.4$  was obtained. Using Marghak's formula and the experimentally found value of L/K ( $Er^{165}$ )  $82_{-5}^{+10}$  keV were found for the transmutation energy of the process  $Er^{165} \longrightarrow Ho^{165}$ . The value of  $\lg ft$  was 3.1 with a half-life of 10.5 hours, which is in agreement with the permitted character of the transmutation. There are 2 figures, 1 table, and 15 references, 3 of which are Soviet.

ASSOCIATION: Radiyevyy institut im. V. G. Khlopina Akademii nauk SSSR (Radium Institute imeni V. G. Khlopin, AS USSR)

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BIRYUKOV, Ye.I.; GRIGOR'YEV, O.I.; KUZNETSOV, B.S.; SHIMANSKIYA, N.S.

Decay of  $Nd^{140}$  and  $Pr^{140}$ . Izv. AN SSSR. Ser. fiz. 2<sup>4</sup> no. 9:  
1135-1144 S '60. (MIRA 13:9)  
(Neodymium--Decay) (Praseodymium--Decay)

S/048/61/025/001/019/031  
B029/B060

24.6720

AUTHORS:

Biryukov, Ye. I., Grigor'yev; O. I., Kuznetsov, B. S.,  
Shimanskaya, N. S.

TITLE:

Decay of Dy<sup>159</sup>

PERIODICAL:

Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25,  
No. 1, 1961, 109-110

TEXT: The authors studied the electromagnetic radiation of Dy<sup>159</sup>  
( $T_{1/2} = 144$  days) arising from the irradiation of a tantalum target by  
MeV protons by means of a spectrometer with proportional counter and a  
scintillation gamma spectrometer. The enclosed figure shows the spectrum  
of the electromagnetic radiation of Dy<sup>159</sup> in the range of 15 to 60 keV,  
taken with a filter of 130 mg cm<sup>-2</sup> Al. The ratio between intensities of  
58-keV gamma radiation and the KX radiation of Dy (44.5; 50.4 keV) is  
 $I_{KX}/I_{\gamma 58} = 53$ . The contribution of the nonconverted 58-keV gamma  
radiation amounts to 6.1%, which is also in agreement with the data

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89253

Decay of Dy<sup>159</sup>

S/048/61/025/001/019/031  
B029/B060

relative to gamma decay of Gd<sup>159</sup>. Apart from the  $\gamma_{58}$  line, a weak line with an energy of 350 keV was also observed (Ref. 2). The intensity of this line amounts to  $2 \cdot 10^{-5}$  quanta per decay event. Shorter wave lines in the energy range up to 2 MeV were no more observed, or at least not any such with an intensity exceeding  $10^{-4}$  to  $10^{-5}$  quanta per decay event. Simultaneous measurements of the two Dy<sup>159</sup> sources in the  $4\pi$  scintillation counter and in the  $4\pi$  gas counter gave the following ratios between the intensities of the LX and KX radiation and the intensities of the corresponding LX - LX and KX - KX coincidences:

$$\frac{I_{KX}}{I_{KX-KX}} = 6.56 \pm 0.18, \quad \frac{I_{LX}}{I_{LX-LX}} = 48.1 \pm 4.1, \quad \frac{I_{KX-KX}}{I_{LX-LX}} = 37.1 \pm 5.8, \quad \frac{I_{LX}}{I_{KX}} = 0.21 \pm 0.01.$$

One may calculate therefrom the ratio  $L_1/K_1$  for the transition to the first excited 58-keV level of Tb<sup>159</sup> and the amount  $\mathcal{M}$  of the bifurcation. If the value  $\bar{\omega} = 0.18 \pm 0.02$  is assumed for the L fluorescence yield of Tb, one obtains  $L_1/K_1 = 0.58$  and  $\mathcal{M} = 0.32 \pm 0.08$ . The article under consideration is the reproduction of a lecture delivered at the 10th All-Union Conference on Nuclear Spectroscopy, which took place in Moscow

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Decay of Dy<sup>159</sup>

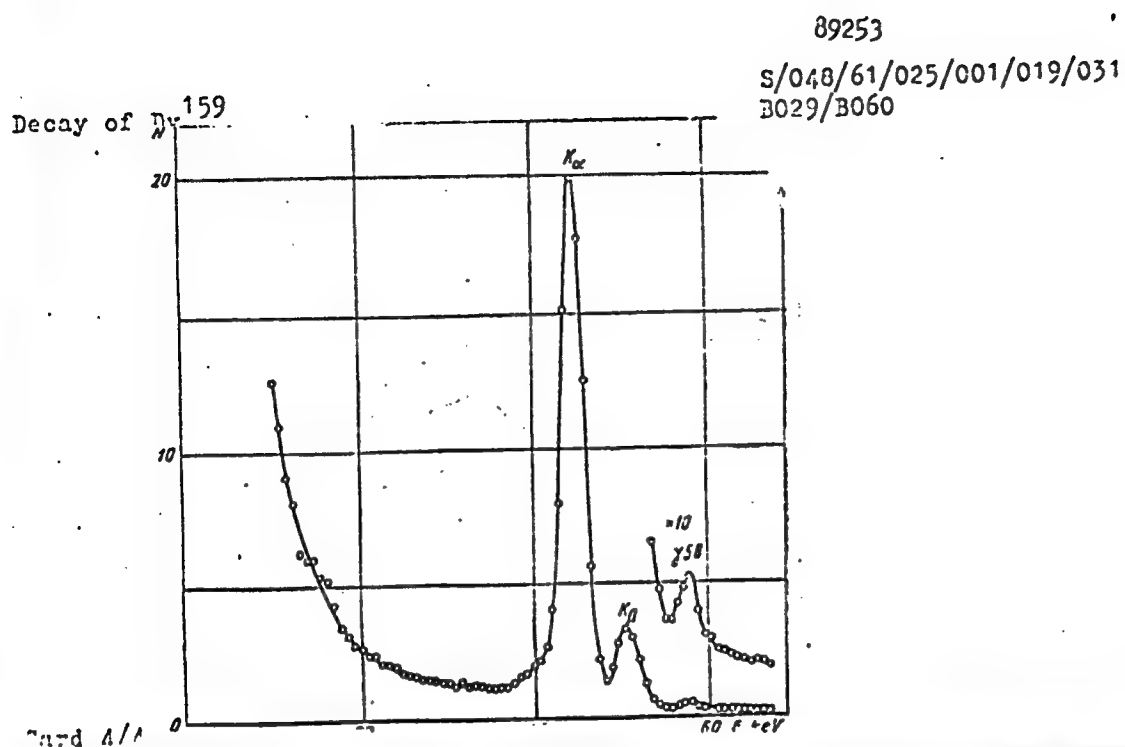
69253  
S/048/61/C25/001/019/031  
B029/B060

from January 19 to 27, 1960. There are 1 figure and 3 non-Soviet-bloc references.

ASSOCIATION: Radiyevyy institut im. V. G. Khlopina Akademii nauk SSSR  
(Radium Institute imeni V. G. Khlopina, Academy of Sciences  
USSR)

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S/077/60/005/003/009/009/XX  
E073/E535

AUTHORS: Grigor'yev, O.P. and Shur, L.I.

TITLE: Drop Dosator for the Synthesis of Nuclear Emulsion<sup>19</sup>

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1960, Vol.5, No.3, pp.223-224

TEXT: The best method at present for producing small quantities of photographic emulsions with reproducible properties, and particularly with a given dimensional uniformity of the micro-crystals, is by the two-solution method of Demers (Ref.1). Thereby, the greatest difficulty is encountered with designing special drop dosators for introducing gelatine into the reacting substances. An instrument is described which is very useful for manufacturing experimental nuclear emulsions (Fig.1). The basic part of the instrument is a working table 1 on a mobile bracket 2. Glass dosing devices 3 for the solutions of  $\text{AgNO}_3$  and  $\text{KBr}$  are fixed, by means of clamps, to the table. The capillaries 4 of the dosators are connected to specially designed jets 5 by means of rubber hoses 6. The frequency of the droplets is controlled by changing the pressure exerted on the rubber hose by a strip 7 which is

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S/077/60/005/003/009/009/XX  
E073/E535

Drop Dosator for the Synthesis of Nuclear Emulsion

loaded with adjustable weights 8. On the same table the motor 9 of the blade mixer 10 is fixed. The solution flows from the dosators through the perspex jet end-pieces, the shape of which (Fig.2) is such as to ensure easier tearing away of the drop from the surface as a result of the pressure of the liquid column. By appropriate choice of the diameter of the jets it is possible to obtain any weight ratio of the salt solutions which determine the conditions of producing the emulsion. The operation is as follows: with the cocks closed and pressed down strips the glass dosators fill up with solution. Then, the mobile table is placed above the vessel 11 which is located in the thermostat 12 in such a way that the mixer is covered with molten gelatine. After starting the mixer, the cocks of the dosator are opened and the strips are slightly relieved from pressure so that the drop of the solution is suspended on the jet. Then, by relieving the load the solutions begin to flow down, simultaneously regulating the frequency of the drops. There are 2 figures and 1 French reference.

ASSOCIATION: Radiyevyy institut imeni V. G. Khlopina AN SSSR  
(Radium Institute imeni V. G. Khlopin AS USSR)

SUBMITTED: December 3, 1959  
Card 2/2

BRIGOR'YEV, O. V.

Technology

(Organization of construction and the formation of the state plan for mine surface construction). Moskva, Ugletekhizdat, 1951.

Monthly List of Russian Accessions, Library of Congress, November 1952.  
Unclassified.

GRIGOR'YEV, P.

Our progressive practices to our friends abroad. Metallurg 7  
no.10:17-18 0 '62. (MIRA 15:9)

(Iron and steel workers)  
(Russia--Relations (General) with foreign countries)

GRIGOR P. P.

107-5-42/54

AUTHOR: Grigoryev, P. (Khabarovsk)

TITLE: Measuring of Resistance of the Moving Coil of a Permanent-Magnet Microammeter  
(Izmereniye soprotivleniya ramki magnitoelektricheskogo mikroampermetra)

PERIODICAL: Radio, 1956, Nr5, p. 54 (USSR)

ABSTRACT: A simple circuit is suggested for amateur measuring of the moving-coil resistance in which the measuring current is limited by a large series resistor and the microammeter is shunted by an adjustable resistor.

One figure is given.

AVAILABLE: Library of Congress.

card 1/1

GRIGOR'YEV, P.

Our country's navy. Voen. znan. 39 no.6:14-15 Je '63.  
(MIRA 16:8)  
(Russia--Navy)

GRIGOR'YEV, P. (Novosibirsk)

Responsible trainer. Voen. znan. 37 no. 2:32-33 F '61.

(MIRA 14:1)

(Rifle practice)



26(2); 28(5) PHASE I BOOK EXPLOITATION SOV/2021

Grigor'yev, P.F., Candidate of Technical Sciences

Issledovaniye iznosa detaley aviatsionnogo dvigatelya s pomoshch'yu radioaktivnykh izotopov (Investigating Wear of Aircraft-engine Components by Means of Radioactive Isotopes) Moscow, AN SSSR, 1956. 12p. Errata slip inserted. (Series: Informatsiya o nauchno-issledovatel'skikh rabotakh. Tema 21, No. I-56-118) 1,670 copies printed.

Sponsoring Agencies: Akademiya nauk SSSR. Institut nauchnoy i tekhnicheskoy informatsii, filial, and USSR. Gosudarstvennyy komitet po novoy tekhnike.

Chief Ed.: A.N. Udal'tsov; Ed.: V.P. Bryantseva, Engineer.

PURPOSE: This booklet is for mechanical engineers and technicians engaged in engine testing and research on the process of wear in engines.

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Investigating Wear of Aircraft-engine (Cont.) SOV/2021

COVERAGE: In order to obtain continuous measurements of the wear of components of an operating engine, GosNIN GVF (State Scientific Research Institute of the Civil Air Fleet) used radioactive isotopes. The basic attribute of radioactive isotopes as indicators of wear is their property of radiating charged ( $\alpha$  or  $\beta$ ) particles or gamma rays as they decay. The great advantage of the use of radioactive isotopes is that it permits simultaneous observation of the wear of several components during engine operation. At present, several methods of activation of components are used. The best known are the following: a) plating the surface of a component with radioactive matter by electrolysis (chrome-, indium-, silverplating, etc.); b) introducing radioactive matter into the alloy from which the component to be investigated is made; c) introducing radioactive metal into the surface layers of the component by the diffusion process; d) exposing components to bombardment by elementary particles whereby the material of the component acquires artificial radioactivity. For various reasons, none of these methods is suitable in practice for activation of such components as piston rings, cylinders, and crankshafts of aircraft engines. Therefore, a new method was developed (jointly with P.L. Gruzin)

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Investigating Wear of Aircraft-engine (Cont.) SOV/2021

which consists of pressing inserts made of radioactive metal into the body of the component. The method developed permits continuous tracing of the dynamics of wear directly in an operating aircraft engine without dismantling it, which no other existing method of wear measurement permits. A short time interval (as low as 10 to 15 hours) is sufficient to permit investigation of the various factors influencing the rate of wear. Such factors include materials of the components, machined finish, operating conditions of the engine, type of lubricant used, etc. The method may also be used as part of a system which indicates automatically when the wear of the most important components of the engine has reached an unacceptable level.

TABLE OF CONTENTS: None given.

AVAILABLE: Library of Congress

IS/rj  
7-8-59

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GRIGOR'YEV, P. F.

137-58-1-2021

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 274. (USSR)

AUTHOR: Grigor'yev, P. F.

TITLE: Study of Wear by Means of Radioactive Isotopes (Izucheniye iznosa s pomoshch'yu radioaktivnykh izotopov)

PERIODICAL: Tr. 1-y nauchno-tekhn. konferentsii. Kiyevsk. in-t grazhd. vozdushn. flota. Moscow, 1956, pp 115-133

ABSTRACT: Surfaces undergoing wear were rendered radioactive by pressing-in inserts of irradiated metals into the portions of the machine that were of interest, or by electrical plating of an irradiated preparation into narrow grooves on the working surface. The kinetics of wear were monitored by means of counters in the oil flow circulating in the main lubricating line. Drawings of an experimental oil line and of devices for installing a B-2 counter are presented. The results of investigation of the time required for iron piston rings to work into the cylinder face of an aircraft engine, the ratio of the wear on a piston ring to the loading thereon and to the initial degree of finish of the chromium-plated cylinder face, and also the effect of dust in the air entering the combustion chamber upon wear are presented. The develop-

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137-58-1-7021

Study of Wear by Means of Radioactive Isotopes

ment of a method of simultaneous observation of wear of two parts by the use of two isotopes is described. Calculation formulas and the results of investigations made by this method are presented.

V. Sh.

1. Materials--Wear 2. Radioactive isotopes--applications

Card 2/2

SOV/137-57-10-20498

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 10, p 302 (USSR)

AUTHOR: ~~Grigor'yev, P. F.~~

TITLE: Method for the Evaluation of the Wear of Piston Rings in Aircraft Engines (Metodika otsenki iznosa porshnevnykh kolets aviatsionnykh dvigateley)

PERIODICAL: V sb.: Izuch. iznosa detaley mashin pri pomoshchi radioaktivnykh izotopov. Moscow, AN SSSR, 1957, pp 39-50

ABSTRACT: A description of the utilization of radioactive isotopes for quantitative investigation of wear (W) of piston rings (PR) of aircraft engines. In order to activate PR a method was developed for press-fitting of cylindrical inserts 0.8 mm in diam, made of radioactive metal, into the sections being investigated, which also affords an investigation of the dynamics of local W. A method was perfected for the activation of PR by means of electrolytic deposition of a radioactive compound into troughs 1 - 2 mm wide cut into the working surface of PR. This affords the observation of the W over the whole perimeter of the PR. The latter method can be used for the installation of W indicators on operating engines. Compounds

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SOV/137-57-10-20498

Method for the Evaluation of the Wear of Piston Rings in Aircraft Engines

of  $Zn^{65}$  and  $Co^{60}$  were used for the activation of PR. The author describes the setting up of experiments for the study of the increase in the activity of the oil circulating in an engine system and for obtaining the curves of the W of the rings on the friction machine. It is established that the most precise evaluation of W is obtained when the counter (C) is placed directly into the flow of the lubricating oil because in that case the radiations of all the particles of wear are recorded. This method affords an automatic recording of the curve of the variation in the activity of the oil, which facility is not afforded by the method of drawing test samples. The author develops a plan for a lubricating system with two series-connected type AMM-4 counters, wherein one of the C is equipped with a device that permits one to disconnect the section of the oil duct containing the C and flush it during the active operation of the engine. Well reproducible results were obtained upon step-by-step detection and elimination of factors impeding the correct evaluation of the variation in the activity of the oil. The experimental data agree with the results of similar investigations of W obtained by gravimetric and other methods and with W curves constructed according to the Fe content in the oil. To remove the radioactive products from the waste oil a type MSh-4 filter was used, designed by the NIIGVF (Scientific Research Institute of the Civil Air Fleet), with wood sawdust as the filtering material. The author proves in

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SOV/137-57-10-20498

- Method for the Evaluation of the Wear of Piston Rings in Aircraft Engines
- principle the feasibility of the utilization of radioactive isotopes for a precise and rapid evaluation of the filtering capacity of filters.

L. G.

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KYUBLER, O.A., inzh., red.; UFIMTSEV, G.M., inzh., red.; GRIGOR'YEV,  
P.G., red.; TOL', A.O., red.; MUNITZ, A.P., red. izd-vr;  
BOROVNEV, M.K., tekhn.red.; SOLNTSEVA, L.M., tekhn.red.

[Unified standards for planning and survey work paid by a piece-  
rate] Edinye normy vyrabotki na proektnye i izyskatel'skie raboty.  
oplachivaemye sdol'no. Moskva, Gos.izd-vo lit-ry po stroit., arkhit.  
i stroit.materialam. Pt.2. [Industrial buildings and structures] Pro-  
myshlennye zdaniia i sooruzheniia. 1958. 86 p. Pt.4. [Interior sani-  
tary-engineering installations for buildings and structures] Vnut-  
rennie sanitarno-tekhnicheskie ustroistva zdani i sooruzhenii. 1958.  
50 p. Pt.5. [Making estimates] Smetnye raboty. Pt.6. [Blueprinting]  
Kopiroval'nye raboty. 1958. 44 p. (MIRA 12:12)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroi-  
tel'stva. (Building--Production standards)

USSR/Chemistry - Miscellaneous

FD-730

Card 1/1

Pub. 50 - 19/20

Authors : Vinogradov, K., Faynshteyn, S. Ya., Yashunskaya, F. I.,  
Kreysberg, A. Ya., Grigor'yev, P. I.

Title : New items.

Periodical : Khim. prom. No 5, 312-318, Jul-Aug 1955

Abstract : This section contains news items dealing with a meeting of chiefs of central plant laboratories of enterprises of the Ministry of Chemical Industry USSR, a meeting of technical personnel engaged in the production of DDT, a meeting of workers at the Scientific Research Institute of the Tire Industry, socialistic competition and introduction of improvements in the fixed nitrogen industry, experience of operators at the "Krasnyy Treugol'nik" plant in the continuous production of rubber footwear by the conveyor assembly method, and a conference of readers of "Khimicheskaya Promyshlennost'" at the Molotov State Chemical Plant imeni S. Ordzhonikidze

GRIGOR'YEV, P.I.

Practices of A.P.Perevalovna's group in assembling several models  
of rubber shoes on a conveyer. Khim.prom.no.5:317 J1-Ag '55.

(MLRA 9:1)

(Boots and shoes, Rubber)

GRIGOR'YEV, I. I.  
CHERNOUDOV, Nikolay Nikolayevich; SUKHANOVSKIY, Aleksey Il'ich; GRIGOR'YEV,  
P.I., red.; MOROZOV, Yu.V., red. izd-va; SHITS, V.P., tekhn. red.

[Principal problems in planning production costs of the lumber  
industry in economic councils] Osnovnye voprosy praktiki pla-  
nirovaniia sebestoimosti produktov lesnoi promyshlennosti v  
sovnarkhosesakh. Moskva, Goslesbumizdat, 1958. 59 p. (MIRA 11:9)  
(Lumbering--Cost)